

CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A hypotube comprising:
a tubular shaft comprising a tubular wall defining an inflation lumen and a main section connected to a distal section,
the distal section comprising a first section connected to a second section, the first section being connected to the main section and disposed between the main section and the second section, the first section comprising at least one slit extending through the tubular wall, the at least one slit extending at least partially and circumferentially around the tubular wall.
the second section comprising a non-tubular stinger, the stinger formed by a distal extension of the tubular wall,
the at least one slit being disposed in close proximity to the stinger,
wherein the inflation lumen has a distal opening that opens in a distal direction.
2. (Withdrawn) The hypotube of claim 1 wherein the at least one slit of the first section is further characterized as being a spiral cut extending substantially along the first section.
3. (Withdrawn) The hypotube of claim 2 wherein the slit of the first section is further characterized as being a spiral cut extending substantially from the proximal end to the distal end of the first section.
4. (Withdrawn) The hypotube of claim 3 wherein the spiral cut has a constant pitch.
5. (Withdrawn) The hypotube of claim 4 wherein the spiral cut has a variable

pitch.

6. (Withdrawn) The hypotube of claim 1 wherein the first section comprises a proximal end integrally connected to the main section and a distal end integrally connected to the second section, the slit of the first section is further characterized as being a spiral cut extending substantially from the proximal end to the distal end of the first section

7. (Withdrawn) The hypotube of claim 6 wherein the spiral cut has a constant pitch.

8. (Withdrawn) The hypotube of claim 6 wherein the spiral cut has a variable pitch.

9. (Withdrawn) The hypotube of claim 1 wherein the second section comprises at least one slit for increasing flexibility of the second section.

10. (Withdrawn) The hypotube of claim 1 wherein the distal section further comprises a middle section disposed between and integrally connected to the first and second sections, the middle section being less flexible than the second section but more flexible than the first section.

11. (Withdrawn) The hypotube of claim 10 wherein the middle section comprises a plurality of slits in the tubular wall thereof.

12. (Withdrawn) The hypotube of claim 1 wherein the tubular wall of the middle section is at least partially collapsed.

13. (Withdrawn) The hypotube of claim 1 wherein the distal section further comprises a middle section disposed between and integrally connected to the first and second sections, the middle section comprising a plurality of perforations in the tubular

wall thereof to make the middle section less flexible than the second section but more flexible than the first section.

14. (Withdrawn) The hypotube of claim 13 wherein the tubular wall of the middle section is at least partially collapsed.

15. (Withdrawn) The hypotube of claim 10 wherein the middle section further comprises at least one slit through the tubular wall.

16. (Withdrawn) The hypotube of claim 14 wherein the tubular wall of the middle section is at least partially collapsed between the slit and the second section. 3

17. (Original) The hypotube of claim 1 wherein the stinger is tapered.

18. (Withdrawn) The hypotube of claim 1 wherein the second section comprises a plurality of non-tubular stingers.

19. (Previously Presented) The hypotube of claim 1 wherein the second section comprises an elongated axial cut out through the tubular wall and the stinger is formed from the remaining portion of the tubular wall.

20. (Currently Amended) A catheter apparatus comprising:
a distal tubular member defining a first lumen,
and a proximal hypotube comprising a tubular shaft comprising a tubular wall defining a second lumen and a main section integrally connected to a distal section, the distal section comprising a first section integrally connected to a second section, the first section being integrally connected to the main section and disposed between the main section and the second section,
the first section comprising at least one slit extending through the tubular wall, the at least one slit extending at least partially and circumferentially around the tubular wall,

the second section comprising a non-tubular stinger ~~formed by a portion of the tubular wall,~~

a balloon,

the at least one slit being disposed in close proximity to the stinger,

the then distal tubular member connected to the proximal hypotube such that the first and second lumens fluidly connected to form an inflation lumen, and

the balloon fluidly coupled to the inflation lumen,

the stinger extending distally from the distal end of the hypotube into the distal tubular shaft.

21. (Previously Presented) The catheter apparatus of claim 20 wherein the second section comprises an elongated axially extending cut out through the tubular wall and the stinger is formed from a remaining portion of the tubular wall.

22. (Original) The catheter apparatus of claim 20 wherein the catheter apparatus is a stent delivery system.

23. (Withdrawn) The catheter apparatus of claim 22 wherein a distal end of the catheter is connected to a balloon.

24. (Withdrawn) The catheter apparatus of claim 22 wherein the catheter apparatus is a stent delivery system having a stent mounted to a balloon.

25. (Withdrawn) The catheter apparatus of claim 20 wherein the at least one slit of the first section is further characterized as being a spiral cut extending substantially along the first section.

26. (Withdrawn) The catheter apparatus of claim 25 wherein the spiral cut has a constant pitch.

27. (Withdrawn) The catheter apparatus of claim 25 wherein the spiral cut has

a variable pitch.

28. (Withdrawn) The catheter apparatus of claim 20 wherein the first section comprises a proximal end integrally connected to the main section and a distal end integrally connected to the second section, the slit of the first section is further characterized as being a spiral cut extending substantially from the proximal end to the distal end of the first section.

29. (Withdrawn) The catheter apparatus of claim 28 wherein the spiral cut has a constant pitch.

30. (Withdrawn) The catheter apparatus of claim 28 wherein the spiral cut has a variable pitch.

31. (Withdrawn) The catheter apparatus of claim 20 wherein the second section comprises at least one slit for increasing flexibility of the second section.

32. (Withdrawn) The catheter apparatus of claim 20 wherein the distal section further comprises a middle section disposed between and integrally connected to the first and second sections, the middle section being less flexible than the second section but more flexible than the first section.

33. (Withdrawn) The catheter apparatus of claim 32 wherein the middle section comprises a plurality of slits extending at least partially through the tubular wall thereof.

34. (Withdrawn) The catheter apparatus of claim 32 wherein the tubular wall of the middle section is at least partially collapsed.

35. (Withdrawn) The catheter apparatus of claim 20 wherein the distal section further comprises a middle section disposed between and integrally connected to the first

and second sections, the middle section comprising a plurality of perforations in the tubular wall thereof to make the middle section less flexible than the second section but more flexible than the first section.

36. (Withdrawn) The catheter apparatus of claim 35 wherein the tubular wall of the middle section is at least partially collapsed.

37. (Withdrawn) The catheter apparatus of claim 35 wherein the middle section further comprises at least one slit through the tubular wall.

38. (Withdrawn) The catheter apparatus of claim 37 wherein the tubular wall of the middle section is at least partially collapsed between the slit and the second section.

39. (Original) The catheter apparatus of claim 20 wherein the stinger is tapered.

40. (Withdrawn) The catheter apparatus of claim 20 wherein the second section comprises a plurality of non-tubular stingers.

41-51. (Canceled).

52. (Currently Amended) A hypotube comprising:
a tubular shaft comprising a tubular wall defining an inflation lumen and a main section connected to a distal section,
the distal section comprising at least one slit extending through the tubular wall, the at least one slit extending at least partially and circumferentially around the tubular wall,
the distal section further comprising an elongated cut-out along the tubular wall which forms a non-tubular stinger, the stinger formed by a distal extension of the tubular wall.

the at least one slit being disposed in close proximity to the stinger,
wherein the inflation lumen has a distal opening that opens in a distal direction.

53. (Withdrawn) The hypotube of claim 52 wherein the at least one slit is further characterized as being a spiral cut extending substantially along the distal section.

54. (Withdrawn) The hypotube of claim 53 wherein the spiral cut has a constant pitch.

55. (Withdrawn) The hypotube of claim 53 wherein the spiral cut has a variable pitch.

56. (Canceled).

57. (Original) The hypotube of claim 52 wherein the stinger is tapered.

58. (Withdrawn) The hypotube of claim 52 wherein the distal section comprises a plurality of non-tubular stingers.

59-63. (Canceled).

64. (Currently Amended) A hypotube comprising:
a tubular shaft comprising a tubular wall defining an inflation lumen and a main section connected to a distal section,

the distal section comprising at least one slit extending through the tubular wall,
the at least one slot extending at least partially and circumferentially around the tubular wall,

the distal section further comprising a distal end connected to a non-tubular stinger element, the stinger element formed by a distal extension of the tubular wall,
the at least one slit being disposed in close proximity to the stinger,
wherein the inflation lumen has a distal opening that opens in a distal direction.

65. (Withdrawn) The hypotube of claim 64 wherein the at least one slit is further characterized as being a spiral cut extending substantially along the distal section.

66. (Withdrawn) The hypotube of claim 64 wherein the spiral cut has a constant pitch.

67. (Withdrawn) The hypotube of claim 64 wherein the spiral cut has a variable pitch.

68. (Canceled).

69. (Original) The hypotube of claim 64 wherein the stinger is tapered.

70. (Withdrawn) The hypotube of claim 64 wherein the distal end is connected to a plurality of non-tubular stingers.

71 -75. (Canceled).

76. (Withdrawn) The hypotube of claim 64 wherein the stinger element is welded to the distal section distal end.

77. (Withdrawn) The hypotube of claim 64 wherein the stinger element is formed by a portion of the tubular wall.

78. (New) the catheter apparatus of claim 20, wherein the stinger extending distally into the first lumen and being attached to the distal tubular member.

79. (New) The catheter apparatus of claim 20, wherein the stinger is formed by a portion of the tubular wall.